

SALICORNIA EUROPAEA IN ILLINOIS.—After checking several sources of information it appears that *Salicornia europaea* L. had not been found in Illinois until last year. This plant of saline soil was collected by the writer in Cook County, Illinois, on September 2, 1948, and from the same locality again two weeks later. The specimens were collected in an area approximately one hundred feet by ten feet. Seven plants were observed in a casual inspection. The habitat of the plant is as follows: a muddy flat, frequently inundated, along the bank of the Little Calumet River at a point about 1200 feet west and 25 feet south of northeast corner of Section 8, T 36 N, R 14 E. This location is just north of the town of Harvey and about one quarter mile west of Halsted Street. This species of *Salicornia* has been attributed to Wisconsin,¹ but this is the first known collection in Illinois.

Since waterways connect Lake Michigan with Atlantic coastal waters and those of the Mississippi River and the Gulf of Mexico, it seems likely that this plant is a recent introduction to our area. It is hardly possible that *S. europaea* L. is to be considered a relict as are some of the plants of the Great Lakes area. Hence the idea of introduction is a more plausible explanation of the occurrence of this plant in northern Illinois.

Chemical analysis, by O. W. Vogel of the Illinois State Water Survey Division, revealed that water saturating the soil has about ten times the normal mineral content of ordinary ground water in that area. Since the mineral content of this water is also many times that of Lake Michigan it is possible that the supply of chlorides and sulphates comes from some industrial source. Dr. L. T. Kurtz analyzed a soil sample and reported the pH to be 7.5.

Some other plants associated with the Illinois locality of *Salicornia* are: *Echinochloa crusgalli* (L.) Beauv., *E. walteri* (Pursh) Heller, *Eragrostis hypnoides* (Lam.) BSP. *Heleochoa schoenoides* (L.) Host, *Atriplex hastata* L., and *Cyperus erythrorhizos* Muhl.

Specimens have been deposited in the Herbarium of University of Illinois (No. 1588, 1599), as well as the Chicago Museum of Natural History (1588) and Gray Herbarium (1588).

¹ W. C. Muenscher, *Aquatic Plants of the United States*, p. 219 (1944).

Verification of identity of specimens has been made by Professor G. Neville Jones and Dr. J. A. Steyermark.—GLEN S. WINTERRINGER, Department of Botany, University of Illinois.

NOTES ON FOUR VIRGINIA PLANTS.—In one of the many narrow valleys of the Massanutten Mountain area in northern Virginia lies a small, but botanically interesting, bog.

The valley, varying in altitude from one thousand to twelve hundred feet, is flanked on either side by quartzite ridges and has been carved out by the wearing away of the less resistant shales and limestones that comprise the valley floor. These latter rocks supply the needs of lime-loving plants, while disintegrating sandstone, together with humus, meets the needs of the acid-loving ones.

The bog, lying within this valley, has an elevation of about one thousand feet. Its varied and interesting flora consists of trees, shrubs, and herbaceous plants.

Of the trees, *Fraxinus nigra* Marsh. is probably the one of greatest interest in this area. This northern species of Ash, as far as it is known, reaches its southern limit in Summers County, West Virginia. As far as I know, the station given in this paper is the only known one for this species in Virginia. There are twenty-three or more trees of *Fraxinus nigra* within and on the borders of the bog. Clustered close about the base of one, which grows well within the bog, is a clump of *Cypripedium reginae* Walt., part of a small group of some forty-seven plants of this *Cypripedium* found in this locality, which, in turn, is one of the four known stations in Virginia for this northern orchid. All four of the stations are in the Massanutten area, two in Rockingham County, Virginia, two in Shenandoah County, Virginia.

Near the border of the bog a Black Ash shelters a group of twelve or more plants of *Liparis Loeslii* (L.) Richard, another northern orchid, this one very near the southern limits of its range.

A fourth plant of interest in this, as yet, incompletely explored bog, is *Utricularia gibba* L., a plant more commonly found inhabiting Coastal Plain areas. To C. O. Handley, Jr., of V. P. I., belongs the credit for having first found this *Utricularia* in this area.—LENA ARTZ, Waterlick, Virginia.

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